



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

April 4, 2012

Mary Romero, Project Manager
U.S. Army Corps of Engineers
Alaska Regulatory Division
P.O. Box 6898
JBER, Alaska 99506-0898

Re: EPA §309 Review Comments - The Alaska Stand Alone Gas Pipeline
Draft Environmental Impact Statement (EPA Project No. 09-054-DOD)

Dear Ms. Romero:

The EPA has reviewed the Draft Environmental Impact Statement (EIS) for the proposed Alaska Stand Alone Gas Pipeline (ASAP). Our review was conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, which specifically directs the EPA to review and comment in writing on the environmental impacts associated with all major federal actions. We are also participating in the NEPA process for this project as a Cooperating Agency.

As proposed by the Alaska Gasline Development Corporation, the ASAP project includes construction and operation of pipelines and facilities to transport natural gas and natural gas liquids (NGLs) from the North Slope of Alaska to Fairbanks, Anchorage, and the Cook Inlet area. The ASAP project would include: a 737 mile long, 24-inch diameter, high pressure natural gas pipeline; a 35 mile line, 12-inch diameter lateral pipeline from Dunbar to Fairbanks; a gas conditioning facility near Prudhoe Bay producing up to 500 million standard cubic feet per day of natural gas and NGLs; compressor stations; a straddle and off-take facility at Dunbar; a Cook Inlet natural gas liquids extraction plant facility; mainline valves; and pig launchers/receivers. Support facilities would include operations and maintenance buildings, construction camps, pipeline yards, and materials sites. The Draft EIS does not identify a preferred alternative.

Our review of the Draft EIS has identified serious, potential environmental impacts to wetlands and impaired waters that should be avoided to adequately protect the environment. Corrective measures may require consideration of other project alternatives. In addition, the Draft EIS does not contain sufficient information regarding potential impacts to a designated air quality non-attainment area, nor to source water protection areas. The document does not provide sufficient information regarding aboveground and related ancillary facilities. Therefore, we have assigned an overall rating of EO-2 (Environmental Objections – Insufficient Information) to the Draft EIS. The EPA's review criteria for rating Draft EISs are available on our website: <http://www.epa.gov/compliance/nepa/comments/ratings.html>.

We believe the avoidance of impacts to the Minto Flats wetland complex should be considered by evaluating other reasonable alternatives in the EIS, such as the Richardson Highway Alternative and the

Fairbanks Route Variation. We recommend that the EIS evaluate these alternatives to identify the Least Environmentally Damaging Practicable Alternative consistent with the Clean Water Act Section 404(b)(1) Guidelines. The Minto Flats wetland complex is considered to be one of the highest quality habitats in Alaska for nesting, rearing, and staging of migratory waterfowl, trumpeter swans, and sandhill cranes. It is also an important area for subsistence, hunting, fishing, and recreation.

We encourage the Corps to evaluate the 404 permit application concurrently with this EIS process, rather than sequentially. Integrating the NEPA process with those for 404 permitting and Section 106 consultation under NHPA would result in streamlined and consistent agency decision-making, enhanced public disclosure, and better predictability for the applicant. We recommend that the EIS include a public notice for the §404 permit application and a draft 404(b)(1) analysis.

We believe the Draft EIS does not provide sufficient information to fully assess the environmental impacts to Goldstream Creek which is listed as impaired under the Clean Water Act §303(d) for not meeting water quality standards for turbidity. Construction of the Fairbanks Lateral could result in additional sediment loading to the creek and contribute to violations of water quality standards. We recommend considering co-location of the Fairbanks Lateral along the Parks Highway as a reasonable alternative to avoid impacts to Goldstream Creek.

Portions of Fairbanks North Star Borough are included in a designated non-attainment area for fine particulate matter (PM_{2.5}) and a maintenance area for carbon monoxide (CO). The Draft EIS does not provide sufficient information to evaluate the positive and/or negative direct, indirect, and cumulative impacts from this project in meeting air quality standards for PM_{2.5} and CO. If potential impacts would be adverse, we recommend evaluating alternatives that could avoid and/or minimize routing through the designated non-attainment area in Fairbanks. We also recommend that the EIS consider the positive air quality impacts from a transition from wood stoves and coal generators to natural gas for heat and electricity in the Fairbanks North Star Borough area.

Additionally, to fully assess the environmental impacts, we believe that the EIS needs to provide a more detailed project description for the aboveground facilities, and other ancillary facilities, such as temporary extra work areas, material source sites, access roads, and water withdrawal areas. We also recommend that the EIS include an analysis of source water protection areas along the project corridor. Finally, we recommend that the EIS consider an adaptive management approach to mitigation and monitoring measures which would help ensure that impacts to resources are minimized and that corrective actions are taken as necessary.

Our detailed comments regarding these concerns are provided in Enclosure 1. Additional specific comments, presented in tabular format, will be submitted under separate cover.

Thank you for the opportunity to review and provide comments on the Draft EIS for the Alaska Stand Alone Gas Pipeline Project. As a Cooperating Agency, the EPA will continue to work with your agency to address the issues we have identified. If you have any questions regarding our comments, please do not hesitate to contact me at (206) 553-1271 or feel free to contact Mark Jen of my staff in Anchorage, Alaska at (907) 271-3411 or by electronic mail at jen.mark@epa.gov. We look forward to our continued coordination and involvement in this important energy project for Alaska.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K. Kelly', is written over the typed name and title.

Kate Kelly, Director
Office of Ecosystems, Tribal and Public Affairs

Enclosure

ENCLOSURE 1
U.S. Environmental Protection Agency, Region 10
Comments on the U.S. Army Corps of Engineers Draft Environmental Impact Statement
for the Alaska Stand Alone Gas Pipeline
(EPA No. 09-054-DOD)

Wetland Resources

A wetland preliminary jurisdictional determination (PJD) was completed in March 2011. The EPA's review of the PJD indicates that it does not contain sufficient information to support a CWA §404 permit application. The project proponent has not provided any additional field data to supplement their March 2011 PJD. The EIS should provide a map identifying the location and types of jurisdictional wetlands impacted by the proposed ASAP project. We recommend that the EIS quantify the direct, indirect, and cumulative wetland impacts associated with each construction site, the pipeline route, major aboveground facilities, mainline valves, temporary extra work spaces (TEWS), permanent and temporary access roads, camp and pipeline/contractor storage areas, etc. We recommend that the EIS discuss the appropriate and practicable steps that will be taken by the project proponent to avoid and minimize adverse impacts to wetlands and other aquatic resources. Mitigation measures should be identified in the EIS to minimize those unavoidable wetland impacts. Compensatory mitigation for unavoidable adverse impacts to wetlands should be discussed in order to meet the goal of "no net loss" of wetlands function and acreage.

Function and Condition Assessment

We recommend that the EIS include an assessment of wetland functions and conditions in the project area to determine the relative importance of each wetland type that could be adversely impacted by the ASAP Project. We recommend that the EIS present a functional assessment for all wetlands within the 300-ft wide pipeline corridor sufficient for making permitting decisions, including evaluating the extent of compensatory mitigation required for unavoidable losses of wetlands and aquatic resources.

Compensatory Mitigation

The *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule*, establishes performance standards and criteria for the use of mitigation banks, in-lieu fee mitigation programs, and permittee-responsible mitigation (e.g., restoration, enhancement, establishment, and preservation) to improve the quality and success of compensatory mitigation projects for activities authorized by 404 permits. We recommend that the EIS describe the project's proposed compliance with the Compensatory Mitigation Final Rule and the type of compensatory mitigation that would be utilized. In addition, we recommend that a Compensatory Mitigation Plan that evaluates the appropriate level of compensation, based on the functional and condition assessment of unavoidable wetland impacts, be included in the EIS.

Minto Flats Wetlands Complex

A 53-mile segment of the proposed Alaska Stand Alone Pipeline would cross an undeveloped portion of the Minto Flats, a large wetland complex fed by waters from the Tatalina, Chatanika, and Tolovana Rivers, and Goldstream and Washington Creeks in interior Alaska. The Minto Flats wetlands complex is comprised of a mosaic of ponds, oxbows, stream channels, and various wetland and upland vegetation types which provide important habitat for waterfowl and wildlife, as well as anadromous and resident fish species.

Minto Flats is one of the highest quality waterfowl nesting, breeding and staging habitats in Alaska. The area maintains one of the largest trumpeter swan breeding populations in North America. It is one of the best habitats in Alaska for trumpeter swan nesting and rearing. Sandhill cranes, loons, and ducks nest in the area in relatively large numbers. Bald eagles are known to nest in the Flats and peregrine falcons have historically nested in areas adjacent to the refuge. Minto Flats is also an important spring and fall waterfowl staging area, particularly for geese and swans. During the winter, grouse and ptarmigan are present in large numbers.

Minto Flats is also an important habitat for mammals and fish. It has historically supported a large number of moose and provides excellent habitat for black bears. Rivers and shallow lakes on the Flats combine to make an excellent home for anadromous fish such as chinook, chum and coho salmon, as well as other resident fish species.

Traditionally, Minto Flats has been and remains an important area for subsistence harvesting of fish, wildlife, and other resources for Athabaskan Tribes living in the Village of Minto and Nenana. The Flats area contains many sites of cultural and/or archeological importance, including cemetery plots and caches.

Because Minto Flats is a particularly rich wildlife area, it draws people from Fairbanks and the surrounding area for activities such as waterfowl and big game hunting, fur trapping, and fishing. The area produces the highest waterfowl harvest in the state and provides the third highest number of waterfowl hunter days. The proposed pipeline would follow and cross the historic Livengood-Dunbar Sled Trail, built in 1917 in the Tolovana River valley to support gold mining activity in Livengood.

Due to the local and national importance of the Minto Flats wetlands complex, we recommend that the EIS analyze in detail the direct, indirect and cumulative impacts to these resources resulting from the construction of the ASAP project. Of particular concern are impacts associated with development of new permanent gravel access roads and new material sources.

CWA §303(d) Listed Impaired Waters

The Alaska Department of Environmental Conservation (ADEC) has placed 70 miles of Goldstream Creek (in the Tolovana River Watershed in Fairbanks) on the CWA §303(d) list for violations of the water quality standard for turbidity, a condition that has continued since the stream was first listed in 1992. ADEC is developing a Total Daily Maximum Load (TMDL) to address sediment loads to Goldstream Creek in order to meet the turbidity standard. The TMDL should be completed in Summer 2012.

The Draft EIS does not provide sufficient information regarding potential environmental impacts on Goldstream Creek. The proposed Fairbanks Lateral would follow the Goldstream Creek drainage for approximately 34 miles. The EPA has concerns that construction of the Fairbanks Lateral may exacerbate violations of turbidity standards in Goldstream Creek. We recommend that the EIS evaluate the direct, indirect, and cumulative impacts to Goldstream Creek resulting from activities related to the construction of the Fairbanks Lateral such as erosion, storm water runoff, and sedimentation. We recommend that the EIS discuss enhancement efforts, such as how the project would coordinate with ongoing protection efforts, and any mitigation measures and monitoring programs that would be implemented to avoid further degradation of Goldstream Creek.

Source Water Protection Areas

The Draft EIS does not provide sufficient information to assess the environmental effects of the project on source water protection areas. The proposed ASAP project may impact public drinking water supplies and/or their source areas through activities related to construction such as trenching, excavation, or water withdrawal. We recommend that the EIS identify and map source water protection areas for surface and ground waters, recharge zones, natural springs, etc. along the proposed pipeline corridor. We also recommend that locations of water supply wells along the project route be identified. The Alaska Department of Natural Resource (ADNR) maintains a well log tracking system (WELTS) database that provides information on reported sources of drinking water. The EIS should describe potential direct, indirect and cumulative impacts to source water protection areas associated with the ASAP project, including potential sources of contamination. The EIS should identify mitigation and monitoring measures to protect source water protection areas.

Air Quality

The Draft EIS does not provide sufficient information to evaluate the air quality impacts from the ASAP project, particularly in the Fairbanks non-attainment area. In addition to the negative impacts, we recommend the EIS discuss the positive effects of the ASAP project in the Fairbanks North Star Borough (FNSB) area. Phased in over time, natural gas would replace the use of wood stoves and existing coal powered generators for heat and energy. In the long term, after a natural gas distribution system becomes operational, there would likely be positive indirect benefits, including air quality improvements. Natural gas is expected to reduce the FNSB fine particulate pollution by as much as 93 percent.¹

Fairbanks Non Attainment Area

Portions of the Fairbanks North Star Borough, including the City of Fairbanks, and the City of North Pole, are in a designated, Federal non-attainment area for exceeding the National Ambient Air Quality Standards (NAAQS) for PM_{2.5} (particulate matter size less than 2.5 microns) and a maintenance area for carbon monoxide (CO). Local sources, such as wood stoves, distillate oil, industrial operations and mobile emissions contribute to PM_{2.5} standard violations during stable weather events associated with extremely strong temperature inversions. Air quality impacts within the non attainment area need to be analyzed, including direct emissions (pipeline construction and activity within the non attainment area) and indirect emissions (increase in population and activities due to staging within the non attainment area) and how such emissions may worsen the existing air quality within the non attainment area or hinder efforts to making progress in improving the air quality. If either of these conditions is present, mitigation should be identified to make the air quality effects neutral or beneficial before proceeding. Further analysis of the necessary general conformity provisions of the CAA is required to make that identification.

Since the Fairbanks North Star Borough area is a designated non attainment area for 24-hour PM_{2.5} NAAQS, transportation conformity and general conformity need to be carefully assessed. As such, emissions from pipeline construction activities (e.g., heavy equipment and machinery) and air quality

¹ Fairbanks North Star Borough, Gas System Distribution Analysis, Preliminary Executive Summary Report (February 14, 2012).

impacts from PM_{2.5} and its precursors, need to be consistent with the PM_{2.5} Attainment Plan being prepared by the Alaska Department of Conservation which is expected in December 2012.

Air Impact Assessment

The Draft EIS should include a framework for comparing the baseline air quality to air quality during the construction and operation of the proposed ASAP project. Winter and summer conditions should also be evaluated in the assessment. The description should provide the following information for purposes of the air impact assessment:

1. Physical, climatological and meteorological characteristics important to an understanding of air pollution and transport, including
 - a. The representative climate data in the vicinity of the project, including mixing height information.
 - b. A discussion on whether the data is representative enough to characterize movement of the air mass in the area of interest
 - c. A discussion of variables that affect air pollution and the fate and transport of pollutants, including air dispersion patterns, complex terrain interactions, extreme temperature affects, seasonal variations, and presence of other atmospheric phenomena.
2. Existing (baseline) air quality, including:
 - a. Ambient air quality data obtained from the Prudhoe Bay Ambient Air Monitoring Program, 3000 E. 16th Street, Anchorage, Harrison Court (Matanuska-Susitna Borough), 675 7th Avenue (Fairbanks North Star Borough, and Denai national Park (Yukon-Koyukuk Census Area), including information about the location, purpose of monitoring, data collection period with start and end date, frequency of monitoring, monitoring methodology (i.e., federal reference or equivalent methods), and data quality assurance and quality control.
 - b. For the pollutants measured, the maximum and minimum concentrations, average concentrations, averaging times, time and date stamps, and specific location information in universal transverse Mercator or latitude/longitude coordinates as well as all other pertinent information required to make valid observations for the specific type of monitor.
 - c. Any monitoring data that indicates a violation of a NAAQS, along with the date the violation occurred.
3. Natural resources, ecosystems and human communities that may be adversely affected by any additional air emissions, including:
 - a. Identification, quantification, and mapping of the following: critical habitat areas or Habitats of Particular Concern; biologically sensitive areas; most environmentally sensitive areas; wildlife refuges or sanctuaries; wetlands; sensitive water bodies; endangered species; threatened species or species of special concern; water resources; or archaeological, historical, or cultural resources.
4. Identification of the air pollution of concern that will be the focus of the analysis:
 - a. In addition to identifying criteria pollutants and greenhouse gases (GHG), the EIS should identify hazardous air pollutants and include a list of project specific pollutants emitted. If some pollutants are not considered for the impact analysis, there should be a

justification for their omission. The EIS should explain why omitted pollutants are not expected to contribute to reasonable significant impacts.

5. Development of an emission inventory to provide an accounting of the sources of emissions and the total quantity of air pollutants emitted:
 - a. A key element of an impact assessment of air emissions is a comprehensive accounting of the sources and quantities of emissions from all aspects of a proposed project and alternatives. Emission sources considered should include support activities such as site preparation, project construction and start-up, as well as operational activities.
 - b. An emission inventory should cover all potential pollutant releases and cover a specific geographical area for a specific period of time. The inventory should include scaled schematics and process flow diagrams that identify product flow and emission-generating activities and points. Fugitive emission points, emission leaks and ancillary activities that have the potential to generate air emissions should be included for discussion.

6. Modeled or otherwise predicted concentrations of air pollutants:
 - a. The purpose of air quality modeling is to determine whether or not emissions from the proposed project activities will cause adverse environmental impacts.
 - b. Models are selected for their ability to predict changes in ambient air quality and any significant pollutant deposition associated with the preferred action and alternatives being considered. Identify what kind of model is necessary to consider air quality impacts (conceptual, simple statistical or numerical dispersion).

7. An analysis of potential impacts on other aspects of the environment besides air, such as natural resources. For example, acidic deposition is one possible effect associated with emissions of sulfur oxides and nitrogen oxides. These emissions contribute to acidic precipitation, and, in the absence of sufficient buffering capacity, cause the acidification of lakes and severe ecosystem impacts:
 - a. Consider various pathways of exposure (direct contact and inhalation of particles or gaseous pollutants) and potential impacts to receptors as a result of pathway exposure.
 - b. Develop a conceptual model for any potentially significant direct or indirect pathway of exposure for natural resources.

8. Contribution to GHG emissions:
 - a. Develop a GHG emission inventory that includes baseline emissions, projected related emissions, and emissions from reasonably foreseeable activities

The Draft EIS states that the cumulative effect on air quality will be developed during the permit process. However, the CEQ regulations require that an EIS consider cumulative impacts along with the direct and indirect impacts of a proposed project and alternatives. We recommend that the following components be used in an air cumulative impacts analysis:

- Identification of emissions from the project and other sources in the resource area;
- Receptors such as people living in the area of impact;

- A conceptual model linking emissions and impacts, such as a narrative description, cause-effect diagrams, or emission receptor-impact matrices;
- Modeling to analyze the impact in a cumulative analysis context (e.g., air quality modeling or deposition modeling). Produce an estimate change from baseline condition to determine whether or not the change is significant.

Gas Flaring

The EIS should describe the flaring system that would be required at the aboveground facilities, such as the gas conditioning facility, compressor stations, straddle and off-take facility, natural gas liquids extraction plant, and other areas along the pipeline corridor. A flaring system would be required for facility startup, de-pressuring during maintenance activities, and to protect the facility from overpressure. We recommend that the air impact assessment in the EIS include gas flaring emissions information.

Fugitive Dust Emissions

Fugitive dust may contain small airborne particles that have the potential to adversely affect human health and the environment. The EPA defines fugitive dust as "particulate matter that is generated or emitted from open air operations (emissions that do not pass through a stack or vent)." The most common forms of particulate matter are known as PM₁₀ and PM_{2.5} (particulate matter size less than 10 and 2.5 microns, respectively).

Sources of fugitive dust from the ASAP may include unpaved gravel roads and facility pads, clearing and construction sites, and gravel mine sites. Effects of fugitive dust to the natural environment may include visibility reductions and haze, surface water impacts, impacts to wetlands, thermokarsting of permafrost, and reduction in plant growth. Fugitive dust may pose a human health risk due to chronic exposure in areas with vulnerable populations, such as infants and the elderly. The EIS should evaluate the magnitude and significance of fugitive dust emissions resulting from this project and potential impacts on human health.

We recommend that the EIS include provisions for monitoring fugitive dust during construction and operations, and measures to reduce fugitive dust emissions, such as wetting the source material, installing barriers to prevent dust from leaving the source area, and halting operations during high wind events.

Concurrent Analyses

We strongly support NEPA processes that integrate other environmental review and consultation requirements, such as the Clean Water Act §404(b)(1) analysis and the National Historic Preservation Act (NHPA) Section 106 consultation. The Council of Environmental Quality (CEQ) NEPA regulations state that, to the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by other environmental review laws and executive orders. For this project, the U.S. Army Corps of Engineers (Corps) has determined that the CWA §404 permit application is incomplete. Therefore, the Section 106 consultation under the National Historic Preservation Act (NHPA) has not yet been initiated. We encourage the Corps to evaluate the 404 permit application concurrently with this EIS process, rather than sequentially. Integrating the NEPA process with those for 404 permitting and Section 106 consultation under NHPA would result in streamlined and consistent agency decision-

making, enhanced public disclosure, and better predictability for the applicant. We recommend that the EIS include a public notice for the §404 permit application and a draft 404(b)(1) analysis.

Range of Reasonable Alternatives

The Draft EIS does not provide sufficient information to determine whether the proposed action is the Least Environmentally Damaging Practicable Alternative (LEDPA) under the Clean Water Act §404(b)(1) Guidelines. We recommend that the EIS analyze a broad range of reasonable alternatives capable of meeting the project's purpose and need. We are concerned that eliminating reasonable project alternatives from detailed analysis in the EIS may result in a limited analysis of the potential environmental impacts and inappropriately limit the range of reasonable alternatives.

We note that the Alaska Legislature in House Bill (HB) 369, set guidelines regarding the analysis of possible routes for the ASAP project. According to the guidelines, the selected route should:

- Be economically feasible,
- Make natural gas available to residents at the lowest possible price,
- Allow for connecting lines to serve industrial, residential, and utility customers along the entire route, and in other regions of the state that can be served at commercially feasible rates,
- Use state land and existing state highway and railroad rights-of-way to the maximum extent feasible, and
- Use existing highway and railroad bridges, gravel sources, equipment yards, maintenance facilities, and other existing facilities and resources to the maximum extent feasible.²

The Draft EIS does not provide sufficient information to determine whether these guidelines have been met. We recommend that the HB 369 guidelines be included as screening criteria to determine a range of reasonable alternatives to be analyzed in detail in the EIS. We recommend that the Richardson Highway Route, the Fairbanks Route Variation, and the Port MacKenzie Rail Route Variation be included as reasonable alternatives to be analyzed in further detail in the EIS to determine which represents the LEDPA. In addition, as described below, we recommend that the EIS include aboveground facility siting alternatives.

Co-Location with Existing Rights-of-Way

According to the Draft EIS, approximately 82 percent of the proposed project route would be co-located with existing transportation and utility rights-of-way (ROWs) along the Dalton Highway and Parks Highway, the Alaska Railroad, and the Trans-Alaska Pipeline System (TAPS). Portions of the proposed pipeline corridor that would *not* be co-located within existing infrastructure ROWs include the sections through the Minto Flats wetlands complex (Mile Post (MP) 410-460), and along the Susitna River drainage south of Trapper Creek to its terminus in the Matanuska-Susitna Borough (MP 710 to MP 736).

Co-location is desirable as a means of concentrating development within established and approved corridors, minimizing adverse environmental impacts on undisturbed areas. Co-locating the pipeline within existing infrastructure ROWs would provide better access for pipeline construction, maintenance, and operations, and would avoid the need for additional access roads and material source sites. We recommend that the greatest possible length of the ASAP project be co-located within existing infrastructure ROWs, and make use of existing Federal and State designated corridors on public land.

² Alaska Stand Alone Gas Pipeline/ASAP Project Plan (July 1, 2011)

This would reduce impacts to undeveloped areas, maximize use of previously established infrastructure (e.g., access roads, storage yards, construction camps, material sites, etc.), and avoid potential adverse impacts to wetlands and other aquatic resources.

Richardson Highway Route

The Richardson Highway Route alternative would follow the Dalton Highway ROW as the proposed ASAP project until Livegood (MP 410), at which point it would be co-located with the existing TAPS and Richardson Highway ROWs to Fairbanks, Delta Junction, and Glennallen. At Glennallen, it would follow the Glenn Highway ROW to its terminus in south central Alaska. The Richardson Highway Route alternative would avoid adverse impacts to the Minto Flats and the Susitna River Flats Wetlands. This alternative could provide natural gas at offtake points to Fairbanks, North Pole, and existing military bases – Fort Wainwright, Eielson Airforce Base, and Fort Greeley. The Richardson Highway Route Alternative could support a future option for a pipeline to a liquefied natural gas facility in Valdez. If the future Alaska Pipeline Project from Prudhoe Bay to Canada is constructed, a take off point at Delta Junction could provide gas to South Central and Valdez via this alternative route along the Richardson Highway.

Fairbanks Route Variation

A Fairbanks Route Variation would follow the existing TAPS corridor between Livengood and the Fairbanks area. In Fairbanks, the route could connect with the Parks Highway until the terminus. The Fairbanks Route Variation would avoid potential adverse direct, indirect, and cumulative impacts to the Minto Flats Wetlands Complex. There is limited infrastructure near the Minto Flats area. This would require additional impacts for new material sites and additional permanent gravel access roads, resulting in greater cumulative impacts to wetlands.

Port MacKenzie Rail Route Variation

The Port MacKenzie Rail Route Variation would follow the proposed ROW for the Port MacKenzie Rail Extension Project. This ROW would parallel the existing Alaska Railroad and Parks Highway from Willow to a point near Houston, and then follow the proposed Port MacKenzie Rail Extension Project to Point MacKenzie. The Port MacKenzie Rail Route Variation would avoid potential adverse direct, indirect, and cumulative impacts to Nancy Lake State Recreation Area and the northeastern corner of the Susitna Flats State Game Refuge, Little Susitna State Recreation River and the Iditarod National Historic Trail. This route variation would avoid residential neighborhoods and drinking water wells by co-locating with the existing infrastructure ROWs. For additional information regarding the Port MacKenzie Rail Route, refer to the project website: <http://portmacrail.com/>.

Fairbanks Lateral Alternative

The proposed Fairbanks Lateral pipeline would take off from the mainline at Dunbar for 34 miles until the Fairbanks terminus. The Fairbanks Lateral would follow the Goldstream Creek drainage and eventually cross the stream. As previously mentioned, we have concerns about potential impacts to Goldstream Creek, currently identified as impaired on the CWA §303(d) list due to turbidity standards violations. We recommend that the EIS evaluate an alternative route to the Fairbanks Lateral Alternative, which could include an alignment along the Park Highway ROW and the Richardson Highway Route Alternative to avoid further potential degradation of water quality in Goldstream Creek.

Aboveground Facility Site Alternatives

The ASAP project would require additional aboveground facilities to support the processing and transportation of natural gas, such as the gas conditioning facility (GCF) on the North Slope, a straddle and off-take facility at Dunbar, compressor stations, a natural gas liquids extraction plant (NGLEP), mainline valves (MLV), and other support facilities. The Draft EIS does not identify or analyze in detail any alternative site locations for these aboveground facilities to determine which locations would best meet site criteria. We recommend that the EIS include analyses of aboveground facility site alternatives to determine which would be the LEDPA. This could be accomplished by identifying additional sites for each aboveground facility, and explaining why the siting criteria support a preferred site over other sites identified and analyzed in the EIS.

Cost Estimates for Alternatives

To integrate the procedural requirements of NEPA and the requirements of the CWA, we recommend that general cost estimates be developed for each alternative evaluated in the EIS. This information could then be used in the evaluation of choices among the action alternatives. As you are aware, the CWA §404(b)(1) Guidelines require the consideration of cost in order to determine the practicability of the alternatives when determining whether a proposed alternative is considered to be the LEDPA. In addition, HB 369 requires consideration of economic feasibility in identifying the proposed pipeline route. The ASAP Plan of Development, Revision 1 (POD) stated that the cost of construction would be \$8.4 billion and the cost of annual operation and maintenance would be \$70 million. We recommend that cost of service estimates for 2012 be developed for each alternative analyzed in the EIS.

Project Description

The description of the project in the Draft EIS should include all of the relevant components so that the analysis of potential environmental impacts will be full and complete. Additional details regarding the proposed aboveground facilities and ancillary facilities, such as the temporary extra work spaces (TEWS), material sites, water sources, and access roads is necessary to evaluate the direct, indirect, and cumulative environmental consequences of the proposed action. As required under the CWA §404(b)(1) Guidelines, this information is necessary to determine whether appropriate and practicable steps have been taken to avoid and/or minimize adverse impacts to wetlands. For those unavoidable impacts, the EIS should disclose the level of mitigation and monitoring that would be necessary to minimize those environmental impacts.

Plan of Development

In March 2011, the project proponent prepared a Plan of Development (POD), Revision 1, for the Alaska Stand Alone Gas Pipeline project. The POD included data and information that we believe is relevant and valuable in a full evaluation of potential environmental impacts. We recommend incorporating the following information from the POD into the EIS:

- Construction Spread by Season and Location (Table 2.2-1; page 9);
- Cost of Proposal (Table 2.3-1; page 10);
- Pipeline wall thicknesses (Table 4.1-1; page 15);
- Temporary Land Use Overview (Table 7.2-1; page 35);
- Project Airports and Airstrips (Table 7.2-3; page 41);
- Construction Timeline for Major Facilities (Table 7.3-1; page 42);
- Approximate Locations of Cut and Fill Grading (Table 7.4-1; page 49);
- Material Availability and Need by Construction Spread (Table 7.4-3; page 50);

- Standard Details and Typical Drawings (Attachment 1)
- Land Ownership (Attachment 2); and
- Existing Material Sites (Attachment 6)

Facility Components

We recommend that descriptions of the following project facility components be incorporated into the EIS, including size, location of the various modules, and layouts of the components, some of which were provided in the POD:

- Gas Conditioning Facility
- Compressor Stations
- Straddle and Off-Take Facility
- Cook Inlet NGL Extraction Plant Facility
- Mainline Valves
- Cathodic Corrosion Protection

Gas Feed Lines and Transfer Lines

As proposed in the Draft EIS, the ASAP project would require the construction and operation of four aboveground pipelines (raw gas supply, miscible injectant supply, CO₂ return line, and ethane return line) that would connect the Prudhoe Bay Central Gas Facility (CGF) to the Gas Conditioning Facility (GCF). These pipelines are not included as part of the project but are considered connected actions in the Draft EIS.

We consider the four pipelines connecting the CGF and GCF and the ASAP project as one complete project. We believe these projects do not have independent utility and would not stand alone as separate projects as the ASAP project would not be a viable project without the raw gas feed line connecting the CGF to the GCF. We recommend including the four pipelines as part of the ASAP project and analyses in the EIS.

Temporary Extra Workspaces

Additional construction areas, or temporary work spaces (TEWS) would be required for construction at road crossings, railroad crossings, crossings of existing pipelines and utilities, stringing truck turnaround areas, wetland crossings, and waterbody crossings. These TEWS would be located adjacent to the construction ROW and could be used for such things as spoil storage, staging, equipment movement, material stockpiles, and pull string assembly associated with horizontal directional drilling (HDD) installation. According to the Draft EIS, the size of the TEWS would vary depending on site-specific conditions and the proposed use of the TEWS. We recommend that the EIS identify the location and size (acres) of all proposed TEWS for this project, preferably in a table and on a map. The cumulative impacts of the TEWS may be significant depending on where they are located in the project area. We recommend that the EIS establish siting criteria for the TEWS, such as maintaining a 50-ft “no disturbance” buffer from wetlands and waterbodies, and a 100-ft buffer from waterbodies that support anadromous fish.

Material Source Sites

The Draft EIS indicates that approximately 13.1 million cubic yards of material may be required for project construction. Approximately 546 existing material sites have been identified using the Alaska

Department of Transportation & Public Facility (ADOT&PF) material site information sources. We recommend the EIS identify the location of existing and proposed new material sites on a map. It would also be helpful to have the information regarding the material source sites included on a table with the milepost location, the surface area impacts, quantity of material available, quantity of material needed for the project, land ownership, permit status, etc. The POD (Attachment 6) provides a list of existing material sites.

Water Withdrawal

The Draft EIS indicates that approximately 1,088.02 million gallons of surface water would be required for construction of ice work pads, ice access roads, ice armouring of snow roads, earthwork (dust control and compaction), and hydrostatic testing of the pipeline and for horizontal directional drilling operations. The Draft EIS describes the results of lake studies conducted for the proposed route from Prudhoe Bay to Galbraith Lake. Additional water resources have not been identified for areas of the pipeline south of the Brooks Range. We recommend the results of the lake studies for all proposed water withdrawal areas along the pipeline corridor are included in the EIS, including lake surface areas, maximum depths, volume of water, volume of proposed withdrawal, and presence/absence of resident and/or anadromous fish species. We recommend including mitigation measures, such as establishing water withdrawal rates, timing of water withdrawal and screening to avoid impacts to fish, and monitoring to ensure that fisheries resources are protected.

Access Roads

The proposed mainline would require the use of 90 permanent gravel roads, 60 of which would be new roads developed to transport material, equipment and personnel, and to access water sources, material sites and camps. The majority of new permanent access roads would be in areas where there are no existing infrastructure ROWs, such as in the Minto Flats area and areas south of Trapper Creek. Approximately 300 acres of additional wetlands would be lost through final placement of permanent roads in the Minto Flats area. We recommend that a map identifying the location of all proposed access roads – permanent and temporary gravel roads, and ice and snow roads – be included in the EIS. A typical access road section drawing should also be included in the EIS. Please refer to the POD (Attachment 1). The type and size of culverts should be specified to ensure adequate cross drainage. We recommend avoiding and minimizing impacts to wetlands by reducing the number of temporary and permanent gravel access roads by maximizing construction activities in the winter season.

Waste Water Permitting

The authority for permitting waste water related to oil and gas discharges (Phase 4), including natural gas pipeline projects, will transfer to the Alaska Department of Environmental Conservation (ADEC) in October 2012. On January 3, 2012, the EPA finalized the reissuance of the General National Pollutant Discharge Elimination System Permit for Facilities Related to Oil and Gas Extraction (AKG-33-1000) within the North Slope Borough (North Slope GP). The North Slope GP authorizes discharges associated with gravel pit dewatering, construction dewatering, hydrostatic test water, storm water associated with industrial activities, and other types of activities. The North Slope GP will expire in January 2017. ADEC has expressed a desire to prepare a pipeline specific general permit with the intent of soliciting public comment on the permit soon after the transition of authority.

Certain discharges associated with the ASAP can be covered by the North Slope GP. Activities within the North Slope Borough, such as the GCF, and portions of the pipeline north of the Brooks Range can

be authorized under the North Slope GP. Authorization for coverage under the North Slope GP and other discharges associated with this project should be coordinated with the EPA and ADEC.

Waste Material and Fluids

Drilling Muds and Cuttings

The proposed project would require the use of horizontal directional drilling (HDD) for a number of major waterbody crossings. The HDD process requires the use of drilling muds (bentonite clay slurry) to install the pipeline underneath the waterbody. Soil cuttings and other drilling fluid additives are mixed with the drilling muds. We are concerned about potential releases of drilling mud, cuttings, and additives into waterbodies that support resident and/or anadromous fish. We recommend that the EIS discuss how this waste material would be managed, stored, transported, and properly disposed. We recommend that a Drilling Mud Plan be prepared and included in the EIS, describing potential impacts, monitoring, and mitigation procedures and contingency plans with inadvertent fluid releases that may occur during HDD activities.

We recommend that a site specific plan be developed for each proposed HDD waterbody crossing. Each plan should account for the physical conditions of the site, including substrate composition and variability, and any terrain constraints that may affect drill success.

Hydrostatic Test Water

Hydrostatic testing of the pipelines would be required to ensure integrity during construction. The Draft EIS does not provide sufficient information to evaluate the direct, indirect, and cumulative environmental impacts associated with the discharge of hydrostatic test water. We recommend that the EIS identify the location of water sources and withdrawal rates that would be required for hydrotesting. In addition, we recommend that the discharge locations to land and/or surface waters, and discharge methods be specified in the EIS. Of particular concern is hydrotesting in the winter season when other additives, such as freeze depressants, may be mixed with the test water. Also, untreated, heated water (36°F to 38°F) may be used for hydrotesting. We recommend that the EIS identify the types of chemical additives that may be required for winter hydrostatic testing and how these chemicals would be treated and properly disposed, as well as any potential thermal impacts. Any discharge of hydrostatic test water should be to surface waters that do not support fisheries resources. We recommend that the EIS describe the mitigation measures and control devices that would be implemented to minimize environmental impacts associated with discharging hydrostatic test water.

Blasting Plan

During project construction, blasting may be required in certain areas along the pipeline route corridor and adjacent facilities, resulting in increased noise and related effects to local residents, and disruption and displacement of birds and wildlife. We recommend that the EIS identify the location of required blasting in the project area, describe the blasting methods that would be used, and specify how blasting effects would be controlled and mitigated. A table with this summary information and a map identifying the blasting locations should be provided. Noise levels in the project area should be quantified and the effects of blasting to humans, birds, and wildlife should also be evaluated. We recommend that a Blasting Management Plan be developed and included in the EIS.

Land Use Plans

The proposed project would impact lands managed under a number of Federal, State, and Local jurisdictions. These lands are managed under Federal Resource Management Plans and Conservation Plans, State Management Plans, Borough Comprehensive Plans, and Local Community Council Plans. The Draft EIS does not provide sufficient information to determine whether the ASAP project is consistent with the management directives of these plans. We recommend that the EIS describe how the proposed pipeline and aboveground facilities would comply with these land management plans, including the requirements of the Minto Flats State Game Refuge Management Plan, implemented by the Alaska Department of Fish and Game.

Minto Flats State Game Refuge

The Minto Flats State Game Refuge (MFSGR) was established in 1988 to (1) ensure the protection and enhancement of habitat, (2) ensure the conservation of fish and wildlife, and (3) guarantee the continuation of hunting, fishing, trapping, and other compatible public uses within the Minto Flats area. The Minto Flats State Game Refuge Management Plan (March 1992) provides policies to guide decisions on management activities, including pipeline corridors on refuge lands if they are determined to be compatible with the purposes for which the refuge was established. Additionally, MFSGR corridor proposals must demonstrate the following:

- There is a significant public need for the corridor that cannot be reasonably met off-refuge,
- The use of refuge lands and impacts to refuge resources are avoided or minimized to the maximum extent feasible,
- Public access to the refuge is maintained, and
- All impacts to refuge resources are fully mitigated.

We recommend that the EIS provide a determination of how the ASAP project would be consistent with directives of the MFSGR Management Plan. This information should be provided for public disclosure in the EIS.

Contaminated Sites

The EPA has regulatory authority over hazardous contaminated sites which may be listed on the National Priority List (NPL) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or sites identified under the Resources Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA). The Alaska Department of Environmental Conservation (ADEC) has the lead for all other contaminated sites within the state.

In the event that the pipeline corridor would intersect with one or more CERCLA sites, a more in-depth plan would be needed and site-specific arrangements would need to be made with the EPA. We recommend that the ASAP project be routed to avoid known contaminated areas to minimize potential liability and to avoid negatively impacting the remedy that is in place for the CERCLA sites.

Both State and Federal agencies will require development of a Soil Handling Plan by to address unexpected contamination encountered during pipeline construction. This plan must be approved by ADEC and EPA. A Soil Handling Plan should include, but not be limited to, the following components: (1) a notification list in the event suspected contamination is encountered, (2) a sampling protocol following an encounter, (3) a protocol for contaminated soil handling and disposal, and (4) a written

procedure to address any areas of contamination that extend beyond the boundaries of the ROW. We recommend that the Soil Handling Plan be included in the EIS.

Cumulative Effects

Fairbanks Natural Gas Distribution System

We recommend including information from the Fairbanks North Star Borough Gas System Distribution Analysis Preliminary Executive Summary Report (February 14, 2012) in the cumulative effects analysis in the EIS. The final report is expected in May 2012. This information should be used to consider refinements to the proposed alternatives and route alignments.

Cumulative Effects Analysis

The Draft EIS does not provide sufficient information to fully assess the cumulative effects of the ASAP project. We recommend that the EIS clearly identify resources potentially affected by multiple actions or stressors in addition to this project, the timeframe over which impacts are likely to occur, and the geographic area applicable to the affected resource. The focus should be on resources of concern - those resources that are at risk and/or are significantly impacted by the proposed project before mitigation. For each resource analyzed, we recommend that the EIS:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of habitat lost to date;
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis;
- Identify the future condition of the resource based on an analysis of the cumulative impacts of reasonably foreseeable projects or actions added to existing conditions and current trends. For example, what will the future condition of the watershed be?
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives;
- Identify potential parties that would be responsible for minimizing, and mitigating those adverse impacts; and
- Identify opportunities to avoid and minimize impacts, including working with other entities.

Additionally, we recommend that the Corps consider including federal actions identified in the following documents in the cumulative impacts analysis:

- Department of Interior, US Fish and Wildlife Service (USFWS) – *Comprehensive Conservation Plan (CCP) and EIS for the Arctic National Wildlife Refuge (ANWR)*
- Department of Interior, Bureau of Land Management (BLM)
 - *National Petroleum Reserve-Alaska (NPR-A) Integrated Activity Plan and EIS (IAP/EIS)*
 - *Trans-Alaska Pipeline System (TAPS) Renewal EIS (2002)*
 - *Trans-Alaska Gas System (TAGS) EIS (1988)*
- Surface Transportation Board (STB)
 - *EIS on the Alaska Railroad Corporation Construction and Operation of a Rail Line Extension to Port MacKenzie, Alaska (2011)*

Mitigation and Monitoring

On February 18, 2010, CEQ issued draft guidance on the Appropriate Use of Mitigation and Monitoring in NEPA analyses. This guidance seeks to enable agencies to create successful mitigation planning and implementation procedures with robust public involvement and monitoring programs.³

We recommend that the EIS include a discussion and analysis of proposed mitigation measures and compensatory mitigation under CWA §404. The EIS should identify the type of activities which would require mitigation measures either during construction, operation, and maintenance phases of this project. To the extent possible, mitigation goals and measureable performance standards should be identified in the EIS to reduce impacts to a particular level or to achieve an environmentally preferable outcome.

Mitigation measures could include best management practices and options for avoiding and minimizing impacts to important aquatic habitats and to compensate for unavoidable impacts. Compensatory mitigation options could include mitigation banks, in-lieu fee, preservation, applicant proposed mitigation, and should be consistent with the *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (33 CFR Parts 325 and 332 and 40 CFR Part 230). A mitigation plan should be developed in compliance with 40 CFR Part 230 Subpart J 230.94, and should be included in the EIS.

An environmental monitoring program should be designed to assess both impacts from the project and the effectiveness of mitigation measures being implemented. The EIS should identify clear monitoring goals and objectives, such as what parameters are to be monitored, where and when monitoring will take place, who will be responsible, how the information will be evaluated, what actions (contingencies, triggers, adaptive management, corrective actions, etc.) will be taken based on the information. Furthermore, the EIS should discuss public participation, and how the public can get information on mitigation effectiveness and monitoring results.

³ See http://ceq.hss.doe.gov/current_developments/new_ceq_nepa_guidance.html